

REMARKS

Applicant has amended the claims 17 through 22. Applicant respectfully submits that these amendments to the claims are supported by the application as originally filed and do not contain any new matter. Accordingly, the Office Action will be discussed in terms of the claims as amended.

The Examiner has objected to the pairs of claims 17 and 18, 19 and 20 and 21 and 22 stating that the claims in each pair are substantial duplicates. In reply thereto, Applicant respectfully submits that there is a difference in each pair. In particular, in the description of the second cooling phase in the claims 17, 19 and 21 it claims "on AC voltage and DC voltage" while in claims 18, 20 and 22 it claims "on AC voltage or DC voltage". Applicant respectfully submits that this difference is significant and therefore the claims are not identical. Accordingly, Applicant respectfully requests that the Examiner withdraw his objection.

The Examiner has objected to claims 17 through 22 under 35 U.S.C. 112, first paragraph for failing to comply with the written description requirement stating that the three cooling phase method steps of the claims are not supported by the description in the specification.

In reply to this rejection, Applicant respectfully submits that the Examiner is incorrect in his position. In particular, Applicant directs the Examiner's attention toward the description of examples 2 and 3 (paragraph bridging pages 24 and 25 and page 27, lines 3 through 17) and the disclosure of the invention at page 7, beginning on line 13. Accordingly, Applicant respectfully submits that there is support in the specification for the three phase step procedure claimed in claims 17 through 22. Therefore, Applicant respectfully submits the claims 17 through 22 complies with the requirements of 35 U.S.C. 112, second paragraph.

Examiner further rejected the claims 17 through 22 under 35 U.S.C. 103 as being obvious over Ogawa in view of Ito, stating that Ogawa discloses the claim invention including

a shelf in a refrigerator having a food on the shelf having a heat pump to cool the refrigerator/freezer, applying AC and DC voltage simultaneously to the food wherein the DC voltage is negative, further, the voltages can be applied for a set duration of time by use of a timer, such that the voltages can be turned off after a set time following the closing of the freezer door, but is silent as to placing the food on the shelf and cooling the interior of the refrigerator, however one of ordinary skill in the art at the time of the invention would have known it obvious to place the food on the food shelves of Ogawa's refrigerator, to use the heat pump mechanism of the refrigerator/freezer to cool or freeze the food and to use the disclosed device as intended and further lacks the use of DC voltages that are greater, in a negative sense than minus 180 volts and AC voltages that are between 180 volts and 3500 volts and temperatures of about minus 20°C; Ito discloses the freezing of fish or meat in an electric field and the use of DC voltages of minus 200 to minus 2000 volts and AC voltages of 150 volts and 800 volts and temperatures used in the range from plus 10°C to minus 40°C; and it would have been obvious to one of ordinary skill in the art to modify Ogawa in view of the teachings of Ito.

In reply to this rejection, Applicant has carefully reviewed Ogawa and respectfully submits that Ogawa discloses either a direct or an alternating current high voltage, but not both at the same time, applied in order to generate an electric field between the electrodes in the food preservation device (see page 4, first paragraph, third to the last line). In addition, Applicant respectfully submits that since the intended function of Ogawa is to produce an electric field and particularly to apply an electric field to the food products, the food products are not electrically connected to the AC and DC voltages through the conductive food trays. In contrast thereto, in Applicant's invention the food products are placed directly on the electrically conductive food trays and are in electrical connection with the food trays and the AC and DC voltages are applied not only to the food tray but also to the food products themselves.

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Applicant has further carefully reviewed Ito and respectfully submits that Ito is substantially the same product and method as Ogawa. In particular, in Ito an electrostatic field is applied to the food product (see the abstract).

Applicant further respectfully submits that the application of an electric field to the food product as in Ogawa and Ito is different from Applicant's invention of applying the high voltage AC and DC voltages to the food product. In particular, if the voltage is applied to the water which is contained in a large amount in the food product, then a large amount of radial ions are generated from the water, resulting in a pH decrease causing the pH to shift towards the acidic properties. However, in Applicant's invention, an alternating voltage is simultaneously applied in some steps and thus an excess amount of hydrogen ion flows as an electric current and the pH increases to shift towards an alkaline property and a drip liquid (juice) which is a liquid produced when the cell walls of the food are damaged during cooling or freezing is substantially not produced and the method of Applicant's invention does not damage the food (see page 38, last paragraph of Applicant's application and paragraph [0053] of the publication of Applicant's application). Applicant respectfully submits that this advantage of Applicant's invention can not be achieved by means of the electric fields of Ogawa and Ito.

In addition to the above, Applicant respectfully submits that neither Ogawa nor Ito disclose the three phased cooling and preserving of the food product which is claimed by Applicant's claims.

In view of the above, Applicant respectfully submits that not only is the combination suggested by the Examiner not Applicant's invention but also the combination suggested by the Examiner would not be obvious to one of ordinary skill in the art. Therefore, Applicant respectfully submits that the claims 17 through 22 are not obvious over Ogawa in view of Ito.

Applicant further respectfully and retroactively requests a three month extension of time to respond to the Office Action and respectfully requests that the extension fee in the amount of \$555 be charged to DLA Piper Deposit Account No. 07-1896.

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In view of the above, therefore, it is respectfully requested that this had been fully entered, favorably considered and the case passed to issue.


Please charge any additional costs incurred by or in order to implement this amendment or required by any further requests for extensions of time to DLA Piper Deposit Account No. 07-1896.

Respectfully submitted,

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